



# Missouri Department of Natural Resources

## PUBLIC NOTICE

### APPLICATION FOR MISSOURI STATE OPERATING PERMIT

DATE: September 22, 2006

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed effluent limitations and/or determinations are invited to submit them in writing to the Department of Natural Resources, Northeast Regional Office, 1709 Prospect Drive, Macon, MO 63552, ATTN: G. Irene Crawford, Regional Director. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by October 23, 2006 or received in our office by 5:00 p.m. on October 26, 2006. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

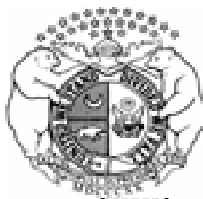
Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.mo.gov/env/wpp/index.html>, or at the Department of Natural Resources, Northeast Regional Office, 1709 Prospect Drive, Macon, Missouri 63552.

Public Notice Date: September 22, 2006  
Permit Number: MO-0122564  
Northeast Regional Office

| <b>FACILITY NAME AND ADDRESS</b>   | <b>NAME AND ADDRESS OF OWNER</b>                           |
|--|--|
| Norwoods Subdivision Wastewater Treatment Facility<br>52608 Norwoods Place<br>Hannibal, MO 63401 | Scott Brothers<br>Route 1, Box 172BB<br>Hannibal, MO 63401 |
| <b>RECEIVING STREAM &amp; LEGAL DESCRIPTION</b>  | <b>TYPE OF DISCHARGE</b>                                   |
| Unnamed tributary to Bear Creek (U)<br>(Bear Creek)<br>Sec. 5, T56N, R5W, Ralls County           | Domestic, reissuance                                       |

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.

MO-0122564

Owner:

Scott Brothers

Address:

Route 1, Box 172BB, Hannibal, MO 63401

Continuing Authority:

Ralls County PWSD #1

Address:

3316 Market Street, Hannibal, MO 63401

Facility Name:

Norwoods Subdivision Wastewater Treatment Facility

Facility Address:

52608 Norwoods Place Hannibal, MO 63401

Legal Description:

See Page 2

Receiving Stream:

Unnamed tributary to Bear Cr. (U)

First Classified Stream and ID:

Bear Cr. (C) (00009)

USGS Basin & Sub-watershed No.:

(07110004-030002)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

See Page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

\_\_\_\_\_  
Effective Date

A handwritten signature in black ink, appearing to read "Doyle Childers".

\_\_\_\_\_  
Doyle Childers, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

\_\_\_\_\_  
Expiration Date  
MO 780-0041 (10-93)

\_\_\_\_\_  
G. Irene Crawford, Director, Northeast Regional Office

**FACILITY DESCRIPTION** (continued)

**Outfall #001 – Domestic Wastewater – SIC #4952**

**No-discharge System**

Single-cell, no-discharge storage lagoon/spray irrigation/sludge is retained in lagoon.

Design population equivalent is 81.

Design flow is 6,512 gallons per day (1-in-10 year design including net rainfall minus evaporation).

Actual design flow is 3,811 gallons per day (dry weather flows).

Design sludge production is 1.22 dry tons/year.

Legal Description of entire Outfall #001: N ½, Sec. 5, T56N, R5W, Ralls County

Legal Description of Lagoon: NE ¼, NE ¼, NW ¼, Sec. 5, T56N, R5W, Ralls County

Legal Description of Spray Irrigation Site: S ½, NW ¼, NE ¼, Sec. 5, T56N, R5W, Ralls County

**Receiving Stream Watershed:** a gaining stream setting

**Design Basis:**

Design dry weather flows

Design with 1-in-10 year flows

Design P.E.: 81

**Avg Annual**

3,811 gpd

6,512 gpd

**Storm Water Flows: (Ralls County)**

Average Annual Rainfall: 40 inches

1-in-10 Year Annual Rainfall: 52.0 inches

25-year-24-hour Storm: 5.5 inches

**1-in-10 year Flows:**

Runoff Concrete and Roof Areas

Runoff Earthen Areas (lagoon berm, etc.)

Rainfall minus Evaporation (R-E) on lagoon water surface

**Annual**

0 feet

2.2 feet

1.6 feet

**Percent Reduction Factors for 120 days**

0

50%

70%

**Lagoon Dimensions:**

**Surface Area**

**Depth from Bottom**

**Pump down depth** (from spillway)

Center Line Top Berm: 32,640 sq. ft. 11.55 feet depth

Inside Top Berm: 29,060 sq. ft. 11.55 feet depth

Emergency Spillway: 27,010 sq. ft. 10.55 feet depth

Freeboard (top berm to spillway): 1 foot depth

Maximum operating level: 8.55 feet depth

Minimum operating level: 3 feet depth 1 foot 7.55 feet

Aerobic BOD design basis: 3 feet depth

Storage volume (minimum to maximum water levels): 939,490 gallons

Berm top width: 10 feet

Berm runoff area (Centerline to emergency spillway): 5,630 sq. ft.

1-in-10 year, 120-day storm water flows into lagoon (R-E): 272,600 gallons

**Storage Capacity**

**Avg Annual (Days of Storage)**

Design for Dry weather Flows: 246 days

Design with 1-in 10 year flows: 167 days

**Land Application to fescue grassland: NW ¼, SE ¼, Sec. 36, T48N, R11W, Callaway County**

Irrigation Volume/year: 1,806,930 gallons (including 1-in-10 year flows)

Irrigation areas: 3.26 acres at design loading (5.96 acres total available)

Application rates/acre: 0.14 inch/hour; 1.24 inches/week; 20.4 inches/year

Field slopes: maximum of 9 percent

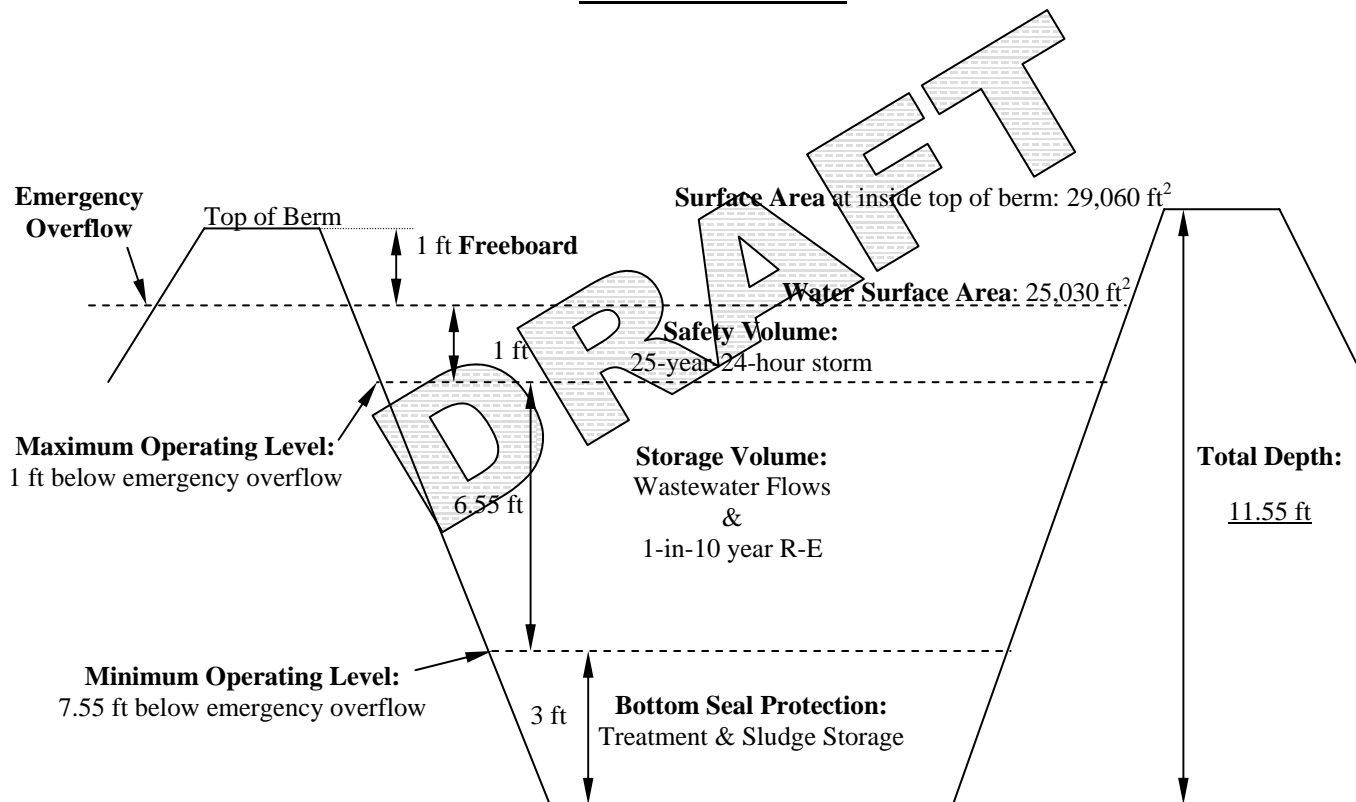
Equipment type: Sprinklers

Vegetation: Grass hay

Application rate is based on: hydraulic loading rate

**Additional Comments:**

**LAGOON PROFILE**



Outfall #002 – Domestic Wastewater /The Fairways at Norwoods Subdivision - SIC #4952

STEP/re-circulating sand filter/sludge disposal by contract hauler.

Design population equivalent is 65.

Design flow is 4,856 gallons per day.

Actual flow is 186 gallons per day.

Design sludge production is 0.5 dry tons/year.

Legal Description: NE ¼, NW ¼, NE ¼, Sec. 5, T56N, R5W, Ralls County

| <b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>   |             |                            |                   |                    | PAGE NUMBER 4 of 8       |                |
|--|-------------|----------------------------|-------------------|--------------------|--------------------------|----------------|
|  |             |                            |                   |                    | PERMIT NUMBER MO-0122564 |                |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: |             |                            |                   |                    |                          |                |
| OUTFALL NUMBER AND<br>EFFLUENT PARAMETER(S)  | UNITS       | FINAL EFFLUENT LIMITATIONS |                   |                    | MONITORING REQUIREMENTS  |                |
|  |             | DAILY<br>MAXIMUM           | WEEKLY<br>AVERAGE | MONTHLY<br>AVERAGE | MEASUREMENT<br>FREQUENCY | SAMPLE<br>TYPE |
| <u>Outfall #001</u> – Emergency discharge from lagoon or irrigation sites (Note 1)   |             |                            |                   |                    |                          |                |
| Flow   | MGD         | *                          |                   | *                  | Once/day**               | 24hr estimate  |
| Biochemical Oxygen Demand <sub>5</sub>   | mg/L        |                            | 65                | 45                 | Once/month**             | grab           |
| Total Suspended Solids   | mg/L        |                            | 110               | 70                 | Once/month**             | grab           |
| pH – Units   | SU          | ***                        |                   | ***                | Once/month**             | grab           |
| Fecal Coliform (Note 2)  | #/100ml     | 1000                       |                   | 400                | Once/month**             | grab           |
| Ammonia as N   | mg/L        | *                          |                   | *                  | Once/month**             | grab           |
| Temperature  | °C          | *                          |                   | *                  | Once/month**             | grab           |
| <u>Land Application Operational Monitoring</u> (Notes 3 and 4)   |             |                            |                   |                    |                          |                |
| Lagoon Freeboard   | feet        | *                          |                   |                    | Once/month               | measured       |
| Irrigation Period  | hours       | *                          |                   |                    | Daily                    | total          |
| Volume Irrigated   | gallons     | *                          |                   |                    | Daily                    | total          |
| Application Area   | acres       | *                          |                   |                    | Daily                    | total          |
| Application Rate   | inches/acre | *                          |                   |                    | Daily                    | total          |
| Rainfall   | inches      | *                          |                   |                    | Daily                    | total          |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____.   |             |                            |                   |                    |                          |                |
| <u>Irrigated Wastewater</u> (Notes 5 and 6)  |             |                            |                   |                    |                          |                |
| Biochemical Oxygen Demand <sub>5</sub>   | mg/L        | *                          |                   |                    | Once/year                | grab           |
| Total Suspended Solids   | mg/L        | *                          |                   |                    | Once/year                | grab           |
| pH – Units   | SU          | *                          |                   |                    | Once/year                | grab           |
| Fecal Coliform   | #/100ml     | *                          |                   |                    | Once/year                | grab           |
| Total Kjeldahl Nitrogen as N   | mg/L        | *                          |                   |                    | Once/year                | grab           |
| Nitrate/Nitrite as N   | mg/L        | *                          |                   |                    | Once/year                | grab           |
| Ammonia Nitrogen as N  | mg/L        | *                          |                   |                    | Once/year                | grab           |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.   |             |                            |                   |                    |                          |                |
| <b>B. STANDARD CONDITIONS</b>  |             |                            |                   |                    |                          |                |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.  |             |                            |                   |                    |                          |                |

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS** (continued)

- \* Monitoring requirement only.
- \*\* Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH standard units.

| <b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>   |         |                              |                |                 | PAGE NUMBER 5 of 8       |               |
|--|---------|------------------------------|----------------|-----------------|--------------------------|---------------|
|  |         |                              |                |                 | PERMIT NUMBER MO-0122564 |               |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until <b>four (4) years and 364-days</b> from the issuance of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:      |         |                              |                |                 |                          |               |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S)   | UNITS   | INTERIM EFFLUENT LIMITATIONS |                |                 | MONITORING REQUIREMENTS  |               |
|  |         | DAILY MAXIMUM                | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY    | SAMPLE TYPE   |
| <u>Outfall #002</u>  |         |                              |                |                 |                          |               |
| Flow   | MGD     | *                            |                | *               | Once/quarter****         | 24hr estimate |
| Biochemical Oxygen Demand <sub>5</sub>   | mg/L    |                              | 45             | 30              | Once/quarter****         | grab          |
| Total Suspended Solids   | mg/L    |                              | 45             | 30              | Once/quarter****         | grab          |
| pH – Units   | SU      | *****                        |                | *****           | Once/quarter****         | grab          |
| Fecal Coliform (Note 2)  | #/100ml | *                            |                | *               | Once/quarter****         | grab          |
| Ammonia Nitrogen as N  | mg/L    | *                            |                | *               | Once/quarter****         | grab          |
| Temperature  | °C      | *                            |                | *               | Once/quarter****         | grab          |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.  |         |                              |                |                 |                          |               |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective <b>one (1) day</b> before the date of expiration of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: |         |                              |                |                 |                          |               |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S)   | UNITS   | FINAL EFFLUENT LIMITATIONS   |                |                 | MONITORING REQUIREMENTS  |               |
|  |         | DAILY MAXIMUM                | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY    | SAMPLE TYPE   |
| <u>Outfall #002</u>  |         |                              |                |                 |                          |               |
| Flow   | MGD     | *                            |                | *               | Once/quarter****         | 24hr estimate |
| Biochemical Oxygen Demand <sub>5</sub>   | mg/L    |                              | 45             | 30              | Once/quarter****         | grab          |
| Total Suspended Solids   | mg/L    |                              | 45             | 30              | Once/quarter****         | grab          |
| pH – Units   | SU      | *****                        |                | *****           | Once/quarter****         | grab          |
| Fecal Coliform (Note 2)  | #/100ml | 1000                         |                | 400             | Once/quarter****         | grab          |
| Ammonia Nitrogen as N  | mg/L    | *                            |                | *               | Once/quarter****         | grab          |
| Temperature  | °C      | *                            |                | *               | Once/quarter****         | grab          |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.  |         |                              |                |                 |                          |               |
| <b>B. STANDARD CONDITIONS</b>  |         |                              |                |                 |                          |               |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II, &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.   |         |                              |                |                 |                          |               |

MO 780-0010 (8/91)

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**

- \* Monitoring requirement only.
- \*\* Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH standard units.
- \*\*\*\* Sample once per quarter in the months of March, June, September, and December.
- \*\*\*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 1 – No-discharge facility requirements. Wastewater shall be stored and land applied during suitable conditions so that there is no-discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year, 365-day rainfall or the 25-year, 24-hour storm event.

Note 2 – Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.

Note 3 – Records shall be maintained and summarized into an annual operating report that shall be submitted by January 28<sup>th</sup> of each year for the previous calendar year period. The report shall include the following:

- (a) record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- (b) the number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- (c) a summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.

Note 4 – Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 5 – Wastewater that is irrigated shall be sampled at the irrigation pump or wet well.

Note 6 – Monitor in June of each year.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to area-wide wastewater treatment system within 90 days of notice of its availability.



C. SPECIAL CONDITIONS (continued)

4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  - (1) One hundred micrograms per liter (100 µg/L);
  - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
  - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.

6. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, Permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids from the lagoon. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

8. Wastewater Irrigation System

- (a) Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
- (b) Irrigation Design. Design and operation shall be in accordance with 10 CSR 20-8.020(15). Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit:
  - (1) No-Discharge System. When the Facility Description is "No-Discharge", wastewater must be stored and irrigated at appropriate times. There shall be no-discharge from the irrigation site or storage lagoon except due to precipitation exceeding either the 1-in-10 year rainfall event for the design storage period or the 25-year 24-hour rainfall event.

C. SPECIAL CONDITIONS (continued)

- (c) Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10-year or 25-year, 24-hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
  - (d) Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
  - (e) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
  - (f) Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions. There shall be no irrigation on days when more than 0.2 inch of precipitation is received or when there is observation by operator of an imminent or impending rainfall event.
  - (g) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling; or 50 feet of the property line.
  - (h) Public Access Restrictions. Public access shall not be allowed to the irrigation site(s). Fencing and public access restrictions to land application sites shall be in accordance with requirements in 10 CSR 20-8.020(15)(B)(5).
  - (i) Nitrogen Loading Rates. Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre. Hydraulic application rates exceeding 100 inches per acre per year shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows: (Total N) x (inches per acre irrigated) = pounds total N per acre. Where Total N = total Kjeldahl nitrogen (TKN) as N + nitrate/nitrite nitrogen as N.
  - (j) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/4 hours; during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
  - (k) Operation and Maintenance Manual. The permittee shall develop, maintain, and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to the departments' Water Pollution Control Program and Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.
9. Lagoon and earthen basins shall have a liner that is designed, constructed and maintained in accordance with 10 CSR 20-8.020(13)(A) 4. Percolation losses shall not exceed 500 gallons per acre per day unless approved by the department under 10 CSR 20-8.020(13)(A) 4.D. If operating records indicate excessive percolation, the department may require a water balance test in accordance with 10 CSR 20-8.020(16).

D. SCHEDULE OF COMPLIANCE

1. The final daily maximum and monthly average Fecal Coliform limits of 400/100ml and 1000/100ml, respectively, shall become effective for Outfall #002 one day prior to the expiration date of the permit or December 31, 2013, whichever comes first unless items (b) or (c) below are approved by the Department. The Effluent Regulation, 10 CSR 20 – 7.015(9)(H), allows the permittee up to five years from the issuance date of this permit to:
  - (a) Install disinfection facilities, or;
  - (b) Present an evaluation to show that disinfection is not required to protect one or both recreational uses, or;
  - (c) Present a Use Attainability Analysis (UAA) that demonstrates one or both designated recreational uses are not attainable in the classified waters receiving the effluent.
2. If chlorination is the chosen method of disinfection, a Total Residual Chlorine limit will be added to the permit.

Date of Fact Sheet: August 10, 2006

Date of Public Notice: September 22, 2006

## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0122564

FACILITY NAME: Norwoods Subdivision WWTF

OWNER NAME: Scott Brothers

LOCATION: Sec. 5 T56N R5W County: Ralls

RECEIVING STREAM: Unnamed tributary to Bear Creek (U)

FACILITY CONTACT PERSON: Jon Rogers TELEPHONE: (573) 221-6615

### FACILITY DESCRIPTION

Outfall one is a one-cell, no-discharge lagoon with 9.55 feet of water depth. The effluent is land applied, and the sludge is retained in the lagoon. The design flow is 6,512 gallons per day (including rainfall).

Outfall two is a recirculating sand filter, with septic tank effluent pumps at each home. The sludge is disposed of by contract hauler. The design flow is 4,856 gallons per day.

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Permits in Missouri are issued by the Director of the Department of Natural Resources under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended).

10 CSR 20-7.031 Missouri Water Quality Standards, Missouri Department of Natural Resources (the Department) "defines the Clean Water Commission water quality objectives in terms of water uses to be maintained and the criteria to protect those uses." The receiving stream's beneficial water uses to be maintained are livestock and wildlife watering, protection of aquatic life, and category B whole body contact recreation.

To protect these beneficial uses and the water quality of the receiving stream, effluent limitations are being established under federal and state laws.

### EFFLUENT LIMIT DERIVATION & RATIONALE

Outfall one is designed as a no-discharge lagoon and irrigation system, and the limits for both outfalls have been retained from the previous permit. A Water Quality Review Sheet was therefore not developed.

Monitoring for ammonia and temperature has been added for emergency discharges at outfall #001 due to the adoption of the U. S. Environmental Protection Agency's "1999 Update of Ambient Water Quality Criteria for Ammonia", and to determine whether "reasonable potential" to exceed water quality standards exists after the discharge begins.

Please note, this facility is discharging within two (2) miles of a stream classified as whole body contact recreation. A schedule of compliance has been added for fecal coliform for outfall #002 pursuant to Missouri Code of State Regulations 10 CSR 20-7.015(8)(B)4 and 10 CSR 20-7.015(9)(H). Monitoring only is required for the first four (4) years and 354 days of the permit. After this period, fecal coliform shall be limited as stated in the permit.

This permit will be issued for a period of five (5) years.